

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number
WO 2005/073265 A1

(51) International Patent Classification⁷: **C08G 12/26**,
H01L 33/00, 51/30, C07D 277/28

(21) International Application Number:
PCT/CA2005/000131

(22) International Filing Date: 2 February 2005 (02.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/541,259 2 February 2004 (02.02.2004) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CONJUGATED THIOPHENES HAVING CONDUCTING PROPERTIES AND SYNTHESIS OF SAME

(57) Abstract: The present invention relates to conjugated oligomers and polymers comprising aromatic thiophene cores. The conjugated materials are obtained by simple and efficient condensation of an aryl diamine and an aryl dialdehyde or a bifunctional aryl moiety comprising both an aldehyde and an amine. Condensation of the complementary moieties at temperatures ranging from ambient to refluxing temperatures in various solvents resulted in conjugated oligomers and polymers that can subsequently be cast into thin films. Oligomerization and polymerization can be done under mild conditions with removal of the resulting water bi-product responsible for shifting the equilibrium in favour of the conjugated products. The resulting conjugated compounds can be made conducting with dopants affording electrically conducting materials of either p-type or n-type conductors depending on the dopant selected.



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